FINAL MEETING SUMMARY

HANFORD ADVISORY BOARD
RIVER AND PLATEAU COMMITTEE
April 7, 2004
Richland, Washington

Topics in this Meeting Summary

This is only a summary of issues and actions in this meeting. It may not represent the fullness of ideas discussed or opinions given, and should not be used as a substitute for actual public involvement or public comment on any particular topic unless specifically identified as such.

Committee Business

Committee vice-chair Susan Leckband opened the meeting and welcomed the committee. The March meeting summary was adopted with changes from John Price, Washington State Department of Ecology (Ecology), and Pam Larsen.

Max Power, Ecology, introduced Nolan Curtis who is the new Ecology Nuclear Waste Program Manager.

Risk Based End States

Mike Thompson, Department of Energy-Richland Operations (DOE-RL), provided copies of the DOE Headquarters (DOE-HQ) memo to the Hanford site that lays out the release schedule for the Risk-Based End States (RBES) document. The delivery date for the Hanford product has been extended until December 1, 2004. DOE-HQ included in the memo strong language directing the sites to consider public review and comment as well as provide a period for that review. The document is not to be submitted as final until that review/comment has occurred.

Pam Larsen suggested a Committee of the Whole (COTW) would be the most appropriate way to approach the RBES issue. It is the responsibility of the River and Plateau Committee (RAP) to put forth to the Executive Issues Committee (EIC) how that meeting will function. Over the course of today's meeting, the committee will identify

issues of concern to be addressed at the COTW. Anyone participating in that meeting will need to read the pre-decisional document. It will be important to go through the proposed variances and raise the questions associated with each scenario. Posing these questions will help both the regulators and DOE understand stakeholder concerns.

Committee Discussion

- Greg deBruler added that another critical piece of the document is 3.5, which is the Hanford RBES narrative description of the proposal. He noted the committee still has not received a response from DOE to the Exposure Scenarios Task Force (ESTF) report. He would like to have a discussion with DOE in the next month to discuss how items from that report are reflected in the RBES.
- Gerry Pollet asked that a chart comparing the public's suggestions vs. the actual end state decisions made for issues such as the Central Plateau and groundwater be prepared. Gariann Gelston will work on developing this piece.
- Pam agreed that the Hanford Advisory Board (Board) has not received a formal response. Wording from the report did appear in the accelerated cleanup plan. Multiple scenarios such as the shrinking site were reflected in responses to Advice 132. However, despite these responses, there is still a need for dialogue with DOE to clear up any misunderstandings at the front of the process. There has also been no response to public and Board feedback on the first drafts of the RBES document.
- Susan stated she believes a COTW is the first step in determining the issues and questions to bring forward and structuring a future workshop. With summer quickly approaching, she urged the committee to hold the COTW quickly.
- Greg does not object to a COTW but reminded the committee that RAP will have a lot of homework to do. He suggested the committee flush out as much as possible today and then wrap up any loose ends in May. There must be a commitment on the Board's part to ensure their opinions and values are fed into the RBES document.
- Pam asked Mike Thompson if Mike Goddu will facilitate the RBES workshop. Yvonne Sherman, DOE-RL, replied that she, Mike Thompson, and Shirley are working with Mike Goddu, along with several Board members, to structure the workshop. This group is having a call tomorrow to lay the groundwork for the workshop.
- A committee member asked when the RBES public meetings will occur. Yvonne suggested the workshop and COTW should be scheduled next to each other so Board travel could be covered. Pam noted that she believes the COTW can be a constructive way of identifying issues to examine. Holding the workshop the next day would not take advantage of those discussions.
- Shelley Cimon asserted the process should move forward. The committees are always tasked with doing the framing work for the issues. If a workshop is being planned then those issues should be addressed immediately. She expressed confusion as to why the Inter-Agency Management Integration Team (IAMIT) groundwater team has been dissolved. Mike Thompson replied that the team had a specific set of

goals to meet and once those had been achieved, the team moved on to other projects. The groundwater issue can either be folded into the RBES discussion or can continue to be discussed separately. Groundwater is an issue in the RBES, as the Hanford site document has not put groundwater on the table. The site has held the line that groundwater restoration is required under the law.

- John Price, Ecology, added that when the workgroups were chartered, they had specific products to deliver in a specific timeframe. This made the groups accountable and productive. The team will continue to meet informally as issues arise. Shelley commented she wants to see discussion in the RBES on the marriage of RBES and cleanup. Mike stated there are two primary principles in the RBES. The first is to meet the goal and requirement under the law of a non-degradation policy. The second is the restoration of groundwater resources. Hanford has held the line that those two principles are still requirements. Anything risk-based contrary to those would not meet the intent or spirit of the requirements and therefore would be dead on arrival.
- Gerry stated he believes it is improper for DOE to follow the RBES path. He asserted this guidance is an attempt to ensure the adoption of guidance that DOE-HQ has been advised they cannot legally move forward on. He asked if it is proper to discuss tank waste scenarios before the release of the tank waste EIS. The Board's job is to not engage in DOE's "dialogue" outside of having the appropriate information. The Board has previously given DOE voluminous input. Before any workshops are held, the Board must have a written response to why the exposure scenarios provided by the Board are not reasonably foreseeable. Mike stated there is ongoing discussion about responding to comments from the first round of public meetings. He committed that DOE will respond to those comments. Those will be ready in time for a COTW. He gave this as his personal commitment. He will also have responses to the scenarios laid out in the Exposure Scenarios Task Force Workshops. Mike will have a draft of the themes and issues raised in the first RBES draft, public meeting comments, and in the Exposure Scenarios report. Gerry agreed it would be appropriate to have a dialogue after those are received.
- Several committee members are concerned that the Comprehensive Land Use Plan (CLUP) is being used as the guiding document. There is a disconnect between the CLUP and final land uses, and what cleanup vs. additional harm means.
- Shelley asked if Mike's commitment includes the regulatory agency's comments. Mike stated absolutely.
- Penny Mabie, EnviroIssues, clarified that there is a difference between the committee's and DOE's plans. There was not consensus that the Board would have RBES workshops rather that the committee would frame a discussion for a COTW to engage in further dialogue. Some committee members will be helping DOE develop public workshops, but they do not represent Board consensus.
- Pam noted that the CLUP is not a land use plan because it lays out a variety of options while a land use plan picks the option. The Future Site Uses Working Group (FSUWG) laid out options. John stated that he focuses on the CLUP Record of

Decision (ROD) because it acknowledges that DOE has the authority to manage their land uses for at least 50 years.

- Mike agreed that the CLUP provides the decision-making information. DOE-HQ policy and direction is clear that the federal designation of the Hanford Reach and the presidential orders for cleaning up the rest of the site are the basis of the RBES. Whether or not this is appropriate can be debated. The question is if these actions can be used to determine if long-term federal ownership is reasonable. DOE is looking for scenarios that fall into the RBES guidance but is willing to look at other end states that would be appropriate to evaluate cleanup actions. There are still Applicable or Relevant and Appropriate Requirements (ARAR) and other issues to consider and evaluate. Therefore, it is appropriate and useful to look at these other end states.
- Dennis Faulk, Environmental Protection Agency (EPA), commented the CLUP started out as a remedial action Environmental Impact Statement (EIS) as a way of making a decision on Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) cleanup at Hanford. The EPA determined that decision was outside the pervue of DOE. For CERCLA decisions, the EPA is the final decision maker. It is fine to have this discussion in the CLUP vein but a superfund EIS/ROD will drive the cleanup. There are decisions coming in the river corridor and the EPA wants to make sure the right decisions are being made.
- Pam agreed with Gerry that it would be appropriate to separate the tank waste issues from the RBES discussion until the Tank Closure EIS is released. The COTW should focus on the decisions that will be made in the next 5 – 10 years that the RBES will be used as a framework for such as the 2005 budget request.
- Yvonne asked if it would be possible to hold a COTW this month. Several committee members replied that would be a rush. Yvonne noted that the availability of personnel will decrease once summer arrives.
- Mike suggested that the workshop could be held adjacent to the June committee meetings. He noted that DOE Hanford is required to come up with an RBES consistent with the policy however, they can commit to looking at other end states to fold into the discussion and document. The RBES project manager Shirley Olinger, DOE-RL, is willing to discuss alternative end states as long as one of those is consistent with the product being delivered to DOE-HQ.
- Gerry disagreed with Mike's statement. While Mike's hands are bound, the Board's job is to advise DOE. What DOE is proposing for RBES is outside of National Environmental Protection Act (NEPA) processes and is inconsistent with the exposure scenarios that were to be the basis of decisions. While it is reasonable for the Board to look at scenarios consistent with applicable law, it is not reasonable for it to look at scenarios inconsistent with the applicable law. Gerry asserted the Board should not spend a moment talking about a tank waste end state. Mike agreed that these visions have very little credence until data is available and quantified. This was also a comment of DOE-HQ. However, it is more valuable to request additional data rather than simply calling for a scenario to be thrown out.

- Harold Heacock noted the National Monument is developing their land use plan. He suggested a workshop to discuss their plans.
- Maynard Plahuta noted the Department of the Interior does not want to take over contaminated land. Harold clarified United States Fish and Wildlife Service (USFWS) policy is to not take contaminated lands that require special management. Dennis added it is beneficial to have those discussions when moving forward on CERCLA cleanup RODs. It is important to understand the direction USFWS is headed in and what they have heard.
- Greg asserted the Board must give Mike the ammunition necessary to fight DOE-HQ's push to continue down this path.
- John Stanfill, Nez Perce Tribe, remarked the tribe does not approve of the RBES process. They believe this policy is no more than DOE-HQ's effort to get out of cleaning up the site. The site must be cleaned up to what it was before the government moved the residents and Tribes out. At that time, the government committed to cleaning the site when they no longer needed it. Because of the Tribe's treaty and trust agreements it is expected that the land will be returned for the Tribes to use as desired. The Nez Perce are engaging in this process but want it known up front that it is worthless. John added that people tend to use the phrase "the federal government gave the tribes the treaty rights." He clarified that the federal and state governments did not give the tribes any rights. The treaties say the tribes will "retain" those rights.
- Gabriel Bohnee, Nez Perce Tribe, commented the Native American scenario DOE wants is a policy they have no implementation plan for. The tribe's treaty is from the era when the tribe gave up the use of lands in exchange for those areas being returned in their original state at some point in the future. It is frustrating to see the pieces of land being chipped away through things such as the National Monument. This requires that the tribe now deal with USFWS. The big picture of the site must continue to be available to the tribe. The tribe now only owns 12% of their reservation. The DOE land use plan is for a 50-year timeframe and the tribe would expect after that time, they would be able to utilize the resources. Ultimately it is imperative that the river is protected and in turn the salmon that are the basis for the Nez Perce culture. DOE is moving forward but DOE-HQ does not have a process for engaging the tribes in attaining a solid goal in the end. There was previously a plan for engaging the tribes but Department of Environmental Management (EM) shelved it as not being reasonable complex-wide. The government has the obligation to work to the benefit of the tribe and what that benefit is, is up for debate. DOE at times has different views about what those treaty rights are.
- Pam stated she would like to set up a working group to draw on this conversation, put together a proposal for a May meeting, and then share that with the rest of the committee. She asked Susan, Maynard, Gariann, and Gerry to take this task on. She also asked John and Dennis to provide assistance if possible.
- Mike assured that although RBES will be used for planning, all decisions that involve the Tri-Party Agreement (TPA) must go through the TPA change process. Maynard commented this point should be brought to the COTW because Shirley's presentation

to the Board did not address this. Mike agreed it is important to be clear that all decisions resulting from this process must go through the TPA processes. From the DOE-HQ perspective, they are faced with a cleanup bill that seems larger than Congress is willing to fund. DOE-HQ is looking to develop cleanup plans that are protective based on risk, which would be based on the probable land uses. Their belief is this process would save a considerable amount of time and money. However, they do understand that they cannot make those decisions but that those must be done through CERCLA and Resource Conservation and Recovery Act (RCRA) processes. Pam acknowledged that Mike is in a tough position. However, the guidance also suggests if a there is a law requiring a remedy that DOE determines to be too thorough, then an attempt should be made to change the law. Therefore the Board is on guard to anticipate what DOE-HQ is up to.

- Pam would like Gerry to talk about how RBES is already being incorporated into the 2005 budget request and Tank Waste Committee Chair Doug Huston to discuss how RBES is being incorporated into the Tank Closure EIS.

Regulator Perspectives

- Dennis suggested the committee think about what questions Hanford collectively needs to answer outside of the context of the RBES discussion. The public has been consistent in their message and it is unlikely to change now. There are many areas with important questions that need to be answered for example, the Riparian Zone, Reactor blocks, and the tank farms. The Board has previously given the EPA enough guidance for them to move forward in their CERCLA decision-making.
- John acknowledged that Ecology is still trying to sort out the RBES issue. Ecology is concerned with the tendency of RBES to make sweeping statements about actions when for the more difficult issues it is necessary to move site-by-site and tank-by-tank.
- Max echoed that the site is approaching difficult issues in the 200 Area. It is unlikely that general solutions will be adequate for addressing those issues. He agreed with Dennis and John's comments and added it is likely some of the RBES concerns will have to wait for the release of the Tank Closure EIS. There needs to be discussion regarding how to move from the CLUP designated land uses to the final land use decisions. It is unclear how real those decisions are but since the scenarios are so strong, there is room to discuss discrepancies between those. It will be important to loop that discussion back to the work done in the ESTF workshops. This committee's role is to help structure the discussion and questions. A facilitated workshop is needed which takes some of the major issues raised in the COTW and works through the 1996 FSUWG plan.

Final Hanford Solid Waste Environmental Impact Statement (Final HSW-EIS)

Susan provided background information on the Final Hanford Solid Waste-EIS (HSW-EIS or EIS). Advice was issued at the April Board meeting but because the Board could

not reach consensus, the request for an independent expert panel was removed. Board discussion brought out that perhaps this panel should not be pulled together until the Tank Closure EIS has been issued. It may be more prudent to review both together to obtain a better overall picture. The goal today is to develop a framework and expectations for a panel.

Committee Discussion

- Several committee members asked if Ecology had adequate in house expertise to review the EIS. Dib Goswami, Ecology, replied there was vigorous involvement on the part of many Ecology staff in reviewing the EIS. Ecology has continued to find deficiencies through all the versions but there was also significant improvement in the final EIS. The remaining deficiencies will be resolved when the RODs are issued or when permits are submitted. Ecology feels they performed an adequate review and do not need the advice of an expert panel.
- Gerry asked Ecology and EPA to provide the Board with the technical staff's review comments. Dennis replied that the Board has seen the EPA's comments. Gerry asked if someone looked at the assumptions and delineations. He found the EPA erroneous in its assumptions of what the EIS covered. He would like to see the specific comments generated for example, by Ecology hydrogeologists. Since this EIS will be the basis for forthcoming documents, thorough review is imperative.
- Dick Smith asked why, if the EIS does not show a problem with solid waste emissions into groundwater, the Board should care. If the analysis is reasonable and appropriate, and there is no resulting contamination, then the Board should not be concerned. Dennis replied that the EIS will not be used as the firm decision tool. For example, even though the new disposal facility is outlined in the EIS, there will still be a permitting process involving extensive discussions regarding appropriate waste forms. A tremendous amount of work has to happen between the release of an EIS and a project actually beginning.
- Al Boldt disagreed that this EIS will have a minor impact. It is important to evaluate the DOE standard for milli-rem exposure because regulatory standards were not used. It is noted that the Maximum Contaminant Level (MCL) estimate for Waste Treatment Plant (WTP) material may not be truly conservative because it is based on assumptions from other areas of the site, not the Purex site. Based on the assumptions of the soil column, the levels are barely below the legal limit. Additionally, the other low-level buried wastes calculate at levels seven times the regulatory limit. There are other similar issues with this EIS. While an independent panel could review the model's consistency, the greatest effect is from the inputs and assumptions used. It is important to have an independent panel look at the final HSW-EIS. Pam asked Al to help draft a letter requesting technical assistance.
- Harold asserted the number crunching is best left to the experts. The fundamental issue for the Board is to review the scope and issues covered in the EIS. It is not the Board's place to advise if the numbers are or are not right.

- Maynard commented he believes the panel is necessary to provide trust in the assumptions used. He agreed that it should not be used to argue numbers but rather to bring together the divergence of views. If the panel is postponed until a later time, there are more opportunities for these assumptions to be proliferated into other documents. He suggested the panel could be used as a teaching or education experience.
- Max commented it appears the committee is concerned about the assumptions. He explained that Ecology is comfortable with the modeling structure in place for certain processes at the Hanford site. It does not appear much was changed in the models used in the final HSW-EIS. Jessie Roberson, Assistant Secretary DOE, has called Linda Hoffman, Director of Ecology, to clarify Ecology's concerns before any RODs are issued. Ecology was concerned with the regulatory standards used however, since those are in the EPA's purview, Ecology chose to accept those.
- Leon Swenson is concerned about what the panel's end product would be and how it could be fed back into the process. He noted the committee keeps comparing this EIS to the Tank Closure EIS however; his understanding was that would be much more detailed. Steve Wiegman, DOE-Office of River Protection (ORP), explained that they are using different models and data. However, it is important that the two EIS's are relatable. Leon agreed with the committee that challenging and understanding the assumptions is important and that the Board does have a role to play in this EIS.
- Several committee members agreed it is important to look at whether the assumptions are valid or reasonable.
- Susan commented she envisions the product as a specific report. It could contain a review of the assumptions used in the EIS and an assessment of the processes used to develop the EIS. An explanation of the modeling would also be helpful. She sees this as an educational tool for the Board to use when reviewing future EISes. The Board would need to develop specific lines of inquiry and expectations for the panel. It is important for the report to be in an easy to understand form for the Board's constituents.
- Dennis clarified that the Board must be sure to ask for technical assistance as outlined in the Board's charter, not a technical panel. Leon noted he is still concerned about clearly articulating what the panel should provide and how large it will be. It is important the panel stays at the level the Board needs and out of the weeds.
- Max suggested it might help to define what disciplines or areas of expertise should comprise the panel.
- Al, Gerry, Susan, and Leon will develop a proposal for this and the other committees to review and provide comment on. The intent is to reach consensus on this plan before it is brought to the Board meeting in June.

Regulator Perspective

- Dennis stated the EPA does not usually conduct a rigorous review of DOE EIS's. However, the EPA directed more resources towards this EIS. Multiple people have reviewed the past drafts and a spot check was completed of the final to review how

EPA concerns were addressed in particular, Irreversible and Irretrievable (I&I) commitment of groundwater issues. DOE acknowledged the EPA's concerns in the final EIS. The EPA is waiting to see how their concerns are addressed in the RODs. However, these decisions will ultimately be made in the CERCLA process. He added that it is important that the Board understands the tools used in this EIS, because they will be used in other processes such as the composite analysis and tank closure EIS.

- Dib stated that Ecology was involved in the development of the Systems Assessment Capability (SAC) and an expert panel was previously established to review the groundwater models. There has been a good history of involving expert review panels at the site. However, Ecology has heard from stakeholders that their involvement in these panels has not been adequate. Ecology would support the Board's request for an independent panel.

2004 Composite Analysis

Doug Hildebrand, DOE-RL, reviewed DOE-RL and DOE-ORP plans to conduct a site-wide composite analysis. The composite analyses (CA) will provide an estimate of the cumulative radiological impacts from the active and planned low-level waste (LLW) disposal actions and other potentially interacting radioactive sources. The analysis can also be used to analyze additional human and Native American exposure scenarios. When the CA is complete, a supplemental analysis will be performed to examine ecological impacts and specific chemicals such as Chrome (Cr) and Carbon tetrachloride (CCL4).

The tanks, facilities, and liquid and solid wastes inventories were used as the basis of the conceptual model. The model simulates releases of the inventory to the atmosphere, soil column, or Columbia River and looks at how the contaminants travel between different mediums. The model begins in 1944 with a clean site. The release and inventory models leach and release contaminants into the vadose zone. This provides a basis for how well the model is representing the current situation.

All of the waste sites were reviewed for inclusion in this assessment and 1,023 were identified to include. The assessment will include all past disposal and remedial actions, and all planned activities. However, pump and treat groundwater remediation actions will not be included. The CA will cover a range of exposure scenarios from residential farmer to park ranger. For human health risk considerations, all exposure pathways, water, air, and soil, are being studied. Exposure scenarios will include ingestion, inhalation, and dermal. Exposure includes consumption of contaminated water, fish, meat, and produce exposed to contaminants. For perspective, a number of exposure scenarios will be simulated. Potential contaminants of concern were identified based on past Hanford site monitoring and prior long-term assessments.

The CA will be integrated with other Hanford assessments such as the River Corridor Baseline Risk Assessment, Central Plateau Terrestrial Ecology Assessment, and the 200-UP-1 and 200-ZP-1 assessments. Throughout all of these processes, peer and technical

reviews will be used. For key issues such as Cesium mobility, the Office of Science and Technology will be used.

The draft document will be complete in January 2005. The CA will be submitted to DOE-HQ in July 2005. The chemical and ecological impacts assessment will be ready during the first quarter of 2005.

Committee Discussion

- Shelley asked when the C-106 data will be ready. Bob was unsure. The intent is to line up the CA schedule with that of the Integrated Disposal Facility (IDF). The CA is required by DOE-HQ in conjunction with any new performance assessment. Charles Kincaid, DOE-RL, added that a significant amount of work has been done to ensure both C-106 and the CA are working with the same inventory information, baseline, and residual inventories. Even if the C-106 results are unavailable they should still be comparable.
- A committee member asked what a salt cake is. Bob replied that the first item dissolved in the tanks is generally the salt cake. The new intent would be to leave that for last and instead turn the sludge into a "hard heel." A diffusion model would be adopted which would result in the sludge assuming a strong resistance to bleaching. In turn, the contaminants would move out of the block. Additional data is still needed on what would drive this model. The work done in the C tank farm risk assessment will be used for this project. The analysis is currently being redone and an annual review will be put in place so if there is new information it can be incorporated.
- Pam commented this looks like the SAC. Bob Bryce, DOE-RL, replied that this is a SAC tool. Maynard commented a model might not perfect if there is not enough knowledge. Charles replied this was the case with Iodine. The model didn't show Iodine but the environment said it was there. Maynard clarified that both what was and was not assumed is studied. Bob replied that this allows for testing of the concepts about what is occurring on the site and builds the information base. He noted in the B/C Cribs this type of situation has pushed further characterization earlier rather than later. It is a learning and feedback process that leads to the best possible answers available today.
- A committee member commented it appears the CA has been more inclusive of waste on site then the final HSW-EIS was. Bob explained that the CA was put together with wide public involvement. The input was clear that a broad range of impacts and inventories needed to be studied. Nine months were spent in bi-weekly meetings looking at the conceptual models for the inventory and vadose zone. Discussions had centered on using a one-dimensional model but input from the public and others drove it to its current complexity. The model attempts to represent all of the waste sites and types of waste at those sites including immobilized low activity waste (ILAW).
- Dick asked if it would be possible to remove the first thirty feet of soil from a site and then re-calculate the scenarios. Charles replied the model would then re-calculate

based on the material that was left. However, the individual Remedial Investigation/Feasibility Study (RI/FS) unit that reviews the class of waste each site is receiving best addresses alternatives.

- Al asked for discussion on changes in the groundwater flow pre-1944. Doug and Bob commented they are aware of United States Geologic Survey (USGS) data that indicated there have been wells on site since 1943. A peer review of groundwater modeling found that the use of a steady state needed to be discontinued, older data is needed, and there must always be preparation for uncertainty. Al asked if there is pre-1944 data. Charles replied that there is certainly less data from the 1940's and 1950's than today. Al asked if the Blackrock Reservoir has been assessed. Bob commented the uncertainties with the reservoir are related to uncertainties associated with the future land uses around the site.
- Marty Bensky asked how the parameters are defined. What would happen if the model found the end state risks were unreasonably high? Would this be a driver for new alternatives or lead to different decisions? In response to the second part of the question, Bob replied the detection of technetium in the cribs drove earlier cleanup actions. The model has initiated a change in the cleanup schedule to address high risks earlier. In response to the first part of the question, Charles explained that there are two ingredients for the distribution of parameters, Hanford soil make up and the types of distribution that will work at this site. The statistician, Paul Estlinger, is the ultimate judge of whether or not there is enough information to support the data. .
- Max cautioned the committee to keep in mind this is a site-wide model. It is possible there are additional contaminants or concerns that would be addressed on a site-specific basis. The site-wide model is used to understand the big picture.
- A committee member asked if the model could be run backwards to determine for example, where hexevalent chromium D Area originated. Charles replied if this was possible, then it would be best to use the site-specific model for D Area.
- Al clarified that the SAC is not being used in the Tank Closure EIS. He asked when, after the DOE-ORP inventory assumptions are incorporated into the model, would the SAC output be available. Charlie replied it would be ready in January 2005. Al asked if this project is receiving those assumptions as they are generated or will receive them as a package. Doug replied they are waiting on DOE-ORP. Since the EIS was subcontracted, this project is not receiving interim information. If a revised tank farm inventory is ready in the summer it could be included in a run of the model. Every attempt is being made to ensure the CA bears some resemblance to the EIS. DOE-ORP has provided the Hanford Operations waste model runs and the CA as well as other projects such as the IDF Performance Assessment (PA) will use this menu of inventories to ensure consistency.
- A committee member asked if the Board's panel could ask this team about the assumptions used in the CA. Bob replied there is a document that lays out the assumptions as well as the results of the initial assessment in the appendix.
- Gariann proposed that the committee develop other alternatives to have the model run, and decisions or advice on an end state, while noting the real issue is how to

present this information in a digestible form to the public. If the committee understands today's presentation then they should make a recommendation if not then there should be a request for more technical information.

- John Brodeur agreed that a model depends greatly on the parameters that are input. In his opinion, the most useful part of the model is the sensitivity analysis. There is clearly a warning warranted for making any decisions based on current understanding. The model is still in the developmental stages and will need further work before reaching confidence and accuracy. A significant issue is the closure model at C Farm. There has never been any characterization but work is scheduled to begin this year. Ecology raised this issue in 1997 and it was never fully addressed. The B/C Cribs are a similar situation. Some characterization was completed but it was intended for remedy selection. It was not intended to provide the level of understanding needed to be an input into an accurate model.

  John asserted that the intrusion scenario should be modeled at the end of institutional controls. When institutional controls end, the point of compliance should be right at the groundwater level or at the waste site. The model being developed in C Farm cannot be used for actual risk calculation even though RBES always assumes there is the capability to calculate risk. The intrusion scenario must define what scenario it is trying to prevent.

- Pam asked Leon to transmit these concerns to the Tank Waste Committee (TWC).
- Several committee members reiterated that any discussion on tank farms is premature without having the Tank Closure EIS as supporting data. Susan suggested boundaries be placed on any discussion due to the lack of information on tank farms until the tank closure EIS is released.
- Penny reminded the committee they were scheduled to present information on risk assessment at the June Board meeting. She suggested the committee consider doing a tutorial for the Board on the suite of assessments being done, how they relate to each other, opportunities for additional runs of information, and how the Board and public can access and use the modeling material. This could be brought to the June Board meeting in conjunction with the RBES discussion. A public meeting was also suggested for the local community. Shelley and Gariann will work on developing this piece.

Regulator Perspectives

- Dib commented that in 1997, both Ecology and EPA endorsed the merit of developing a CA. However, they identified significant issues such as the lack of public involvement, and the exclusion of hazardous waste constituents. This was followed by two modeling projects that resulted in different conclusions, Tank Waste Remediation System (TWRS) EIS and the Hanford Remedial Action (HRA) EIS. At that time, a single end state was presupposed. In the 1999 – 2001 timeframe, a groundwater and vadose zone expert panel was convened with regulators, stakeholders, and tribal nations participation. The SAC resulted from these panels and was applied to the HSW-EIS, and other EIS in addition to the CA.

Dib added that Ecology would welcome Board suggestions on what the RBES scenarios should include.

- John noted that while the SAC is often portrayed as inaccurate by some committee members, it is the best available approach for understanding what is occurring on site. The SAC continues to change and those using it truly understand it. Battelle has some of their top experts working on the model.

Groundwater Protection Program

Dick Wilde, Fluor, updated the committee on the Groundwater Protection Program (GPP). The program consists of five essential actions:

- Controlling high-risk sources of contamination
- Taking groundwater protection measures to reduce artificial recharge
- Implementing final and effective groundwater remedies
- Shrinking the footprint of the contaminated areas
- Integrating Hanford's monitoring needs

Transuranic Waste Retrieval Work

Dick explained that beginning in 1970, many materials went into the burial grounds as retrievable Transuranic Waste (TRU). The current goal is to remove 6,000 drums from the burial grounds by December. Some of the drums have bulged and are starting to degrade so they must be vented to avoid explosion. The boxes are scheduled for removal in 2006 although some wood and cardboard boxes have been found already. The work is moving from the west end of the burial ground, which holds the newer material, to the east end, which holds the older material.

In trench four of this burial ground, a vapor extraction system has been set up for carbon tetrachloride. The levels started at 70 parts per million in the beginning of February and are now down to 10 parts per million. Early on in the TRU retrieval process, investigations into the older end of the trench were completed. These will help in future preparations and plans.

Throughout this process the concern has been and continues to be how to keep the workers safe. There is an extensive worker safety program in place and both the workers and drums are monitored closely. This project is trying to go overboard on safety to avoid having similar issues to the tank farms. The workers helped to design this program. Each morning for example, reports about the condition of the trenches are issued. This is being done because of the condition of the tanks. There is a crew that works from the west end and deals with high volumes of waste. There is a specialized team that works with the high-risk drums on the east end of the trench. The intent is to have this team remain together to ensure institutional knowledge is kept intact.

Other Groundwater Protection Program Items

- At Z-9, work is continuing to find out were the waste, such as plutonium, organics, and carbon tetrachloride, is located. This material is very high risk and the workers are in full protective gear including supplied air. There are also extraction wells in place that pull the contaminated air out from around the wellhead. A full-time industrial hygiene technician and a radiological technician are on site at all times.
- The team is trying to decommission 500 wells by the end of 2006. The intent is to prevent water from running down the well casing and then contaminating the groundwater.
- A mortar relining operation of water lines is underway. Two critical pieces by U and T plant are almost complete.
- Ecology has approved the 100 D Area groundwater Chromium contaminant plume plan. As a result, three pump and treat wells will be installed by July and possibly three more by the end of the year.
- Aquifer tube readings indicated that chrome was getting around the In-Situ Redox Manipulation (ISRM) barrier. Water was taken from these tubes at D and B area. The D area goes into a reservoir that is leaking. This was re-cemented and then refilled. However, it has continued to leak. An agreement was reached to never raise the water level of this reservoir to the location of the leak. The other problem in D area was the water lines under the reactor area. Half of those have now been taken out of service with only the critical lines continuing to operate. The best situation would be to take the whole system out of service.

Committee Discussion

- Susan commented she is pleased to see the extra consideration Dick has given to the workers.
- Maynard asked why it is necessary to continue providing water at D Area. Dick replied that Bechtel is still cocooning the reactors and the fire marshal is concerned about having only one large volume source of water on the plateau. When the reactors are completed, the remaining water lines will be removed.
- A committee member asked how this program will work in the 300 Area. Dick replied the 300 Area waste sites and facilities are under Bechtel control. The GPP is a waste site wide program because cleaning up just one site is not protective of groundwater.
- Rick Jansons asked if the fire lines are contributing to the artificial recharge conditions. He asked why there is not a viable option to remove the main water line to the plateau. Dick replied these lines are adding to the artificial recharge conditions. The feeder lines of the system cross sensitive waste sites and if there is a leak in those locations, it could go through a trench. Therefore, those are being relined. The line that runs by D up to the plateau is not a main line but one of these feeder lines.

- Maynard asked when all of the drums will be complete. Dick replied no later then 2018 including 12B. A test drill will be done into 12B by this time next year to assess the situation.
- Dick Smith asked where the plywood boxes are located. Dick Wilde replied 50 are in the Central Waste Complex (CWC) and others are scattered throughout the burial grounds.

Regulator Perspectives

- John commented that Fluor has been very responsive in addressing issues and has tackled some problems in advance of when they are asked.

River Corridor Risk Assessment Update

Steve Weiss, Bechtel Hanford Inc. (BHI) briefly reviewed the 100/300 Area component of the River Corridor Baseline Risk Assessment (RCBRA). The risk assessment work plan is currently being written. This document will provide the background information for the Data Quality Objectives (DQO) Process. It will also describe the general approach for the assessment. Draft sections of this plan can be found at:

http://www.bhi-erc.com/Projects/risk/risk.htm

The goal is to have a transparent process and in the future additional sections of the plan will be posted at this site. The complete report will also be issued for a formal review beginning in June 2004. The Pacific Northwest National Laboratory (PNNL) Historical Data Compilation report and the shoreline radiation survey will be posted on this site when they are finished.

Tom Marceau, BHI, explained that the RCBRA project is broken into two components. In addition to the 100/300 Area component already in progress, the Columbia River component has recently begun, and will cover the river down to Astoria, Oregon. For the Columbia River component, the focus will be on Hanford specific contaminants but other contaminants will be identified and noted. Both ecological and human health receptors will be monitored as part of this assessment. The specific species have not been chosen but the 100 B/C Area Assessment was proposed as a base to work from. Native American scenarios will be included. The draft basis of assumptions document will be released later this month. A budget, schedule, and scope still need to be developed.

Committee Discussion

- Maynard asked if soil samples are being taken in the 1967 Area (an area where a spill had eaten away part of the bank and residual contaminant remain).. Steve replied they will be taken next spring along with plant samples as part of the DQO process.
- Leon noted it sounds like this investigation will look at the upriver area in relation to the site. To do this, there would be a need for an understanding of how much material from H Area is in the river. Tom replied that the sampling will be used to

construct a baseline for upriver materials as well as the downriver portions of the Yakima and Columbia. Hanford contaminants will only be identified, not cleaned up.

- Several committee members asked if this information will be available for the second draft of the RBES? Tom replied the data will be used to build ecological risk assessments for human, ecological, and river health. The focus of the study is to identify specific exposures and the associated risks. This project will not start until October 2005 and will have a two to three year timeframe. The project will therefore not feed into the RBES process. However, it may feed the B/C Area decisions in 2006. The bigger piece of work will be the river corridor risk assessment which would eventually feed into the site-wide risk assessment as well as the 100 Area ROD.

Resource Conservation and Recovery Act (RCRA) Permit

The committee briefly discussed the RCRA permit change notice. There will be a public meeting on May 12. The groundwater managers will take a look at the proposed changes and report back to the committee.

Committee Business

- A COTW will be held in May to discuss RBES. The committee will flush out the agenda for this meeting and share that on a committee call.
- The HSW-EIS technical assistance request letter will be presented at the June Board meeting. It will be sent out early for review and comment by the full Board.
- There will be a tutorial at the June Board meeting on the CA.
- There will be a briefing at the June Board meeting on K Basin sludge if information is available.
- Ecology will discuss the ecological risk assessment and biological dose issue at the June committee meeting if requested to do so.
- The April 17 committee call will be rescheduled along with an RBES call.
- Need for a May RAP meeting is dependent on developments with K-Basins, River Corridor Contract, and HSW-EIS RODs.

Handouts

- River and Plateau Committee Meeting Agenda, April 7, 2004
- 2004 Composite Analysis Plans and Approach, Doug Hildebrand/Charles Kincaid/ Bob Bryce, April 7, 2004
- 100/300 Component of the River Corridor Baseline Risk Assessment, Steve Weiss, BHI, April 7, 2004
- Memo: Draft Hanford Risk-Based End State Vision Document, Jessie Roberson Assistant Secretary EM, April 5, 2004
- Waste Management 2004, Jessie Roberson Assistant Secretary EM, March 1, 2004

Attendees

HAB Members and Alternates

Martin Bensky	Harold Heacock	Gerry Pollet
John Brodeur	Rick Jansons	Richard Smith
Shelley Cimon (by phone)	Pam Larsen	John Stanfill
Greg deBruler (by phone)	Susan Leckband	Leon Swenson
Gariann Gelston (by phone)	Maynard Plahuta	Dave Watrous

Others

Steve Chalk, DOE-RL	Rick Bond, Ecology	Tom Marceau, BHI
Kevin Clarke, DOE-RL	Nolan Curtis, Ecology	Steve Weiss, BHI
Michael Collins, DOE-RL	Dib Goswami, Ecology	Liana Herron, EnviroIssues
RD Hilderbrand, DOE-RL	Max Power, Ecology	Penny Mabie, EnviroIssues
John Morse, DOE-RL	John Price, Ecology	Barb Wise, Fluor
Yvonne Sherman, DOE-RL	Dennis Faulk, EPA	Jean McKenna, Hanford Communities
K. Michael Thompson, DOE-RL	Mike Priddy, WDOH	Gabriel Bohnee, Nez Perce Tribe
Jamie Zeisloft, DOE-RL		Kim Ballinger, Nuvotec
Steve Wiegman, DOE-ORP		Mark Freshley, PNNL
		Stuart Luttrell, PNNL
		Mark Triplett, PNNL